2009

Nebraska Summary: S744 Massey Ferguson 8660 IEGR

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SUMMARY OF OECD TEST 2560–NEBRASKA SUMMARY 744
MASSEY FERGUSON 8660 IEGR DIESEL
DYNA VT TRANSMISSION

POWER TAKE-OFF PERFORMANCE

Power HP *(kW)*	Crank shaft speed rpm	Gal/hr *(l/h)*	lb/hp.hr *(kg/kW.h)*	Hp.hr/gal *(kW.h/l)*	Mean Atmospheric Conditions
MAXIMUM POWER AND FUEL CONSUMPTION					
Rated Engine Speed—(PTO speed—1081 rpm)					
238.0 *(177.5)*	2200	14.62 *(55.33)*	0.429 *(0.261)*	16.28 *(3.21)*	
Standard Power Take-off Speed(1000 rpm)					
256.1 *(191.0)*	2035	14.80 *(56.04)*	0.404 *(0.246)*	17.30 *(3.41)*	
Maximum Power (1 hour)					
269.4 *(200.9)*	1850	14.84 *(56.18)*	0.385 *(0.234)*	18.15 *(3.58)*	
VARYING POWER AND FUEL CONSUMPTION					
238.0 *(177.5)*	2200	14.62 *(55.33)*	0.429 *(0.261)*	16.28 *(3.21)*	Air temperature
204.2 *(152.3)*	2220	13.46 *(50.94)*	0.460 *(0.280)*	15.18 *(2.99)*	68°F *(20°C)*
153.9 *(114.8)*	2231	10.64 *(40.26)*	0.483 *(0.294)*	14.47 *(2.85)*	Relative humidity
103.1 *(76.9)*	2242	7.53 *(28.52)*	0.511 *(0.311)*	13.68 *(2.70)*	57%
51.8 *(38.6)*	2250	4.86 *(18.39)*	0.655 *(0.399)*	10.66 *(2.10)*	Barometer
-- --	2258	2.58 *(9.75)*	-- --	-- --	29.5" Hg *(99.9 kPa)*

Maximum Torque - 899 lb.-ft. *(1219 Nm)* at 1500 rpm
Maximum Torque Rise - 58.1%
Torque rise at 1800 engine rpm - 36%
Power increase at 1850 engine rpm - 13.2%

DRAWBAR PERFORMANCE
(Unballasted - Front Drive Engaged)
FUEL CONSUMPTION CHARACTERISTICS

Power Hp *(kW)*	Drawbar pull lbs *(kN)*	Speed mph *(km/h)*	Crank-shaft speed rpm	Slip %	Fuel Consumption lb/hp.hr *(kg/kW.h)*	Hp.hr/gal *(kW.h/l)*	Temp.°F cool-ing med	*(°C)* Air dry bulb	Barom. inch Hg *(kPa)*
Maximum Power—Turtle 7.5									
195.1 *(145.5)*	15545 *(69.15)*	4.71 *(7.57)*	2201	2.3	0.525 *(0.320)*	13.30 *(2.62)*	142 *(61)*	43 *(6)*	29.6 *(100.3)*
75% of Pull at Maximum Power—Turtle 7.5									
149.7 *(111.6)*	11650 *(51.82)*	4.82 *(7.75)*	2219	1.9	0.589 *(0.358)*	11.88 *(2.34)*	149 *(65)*	45 *(7)*	29.6 *(100.3)*
50% of Pull at Maximum Power—Turtle 7.5									
101.0 *(75.3)*	7750 *(34.47)*	4.89 *(7.86)*	2231	1.2	0.655 *(0.398)*	10.67 *(2.10)*	156 *(69)*	46 *(8)*	29.6 *(100.3)*
75% of Pull at Reduced Engine Speed—Turtle 9									
149.0 *(111.1)*	11670 *(51.90)*	4.79 *(7.71)*	1847	1.7	0.512 *(0.311)*	13.65 *(2.69)*	158 *(70)*	48 *(9)*	29.6 *(100.4)*
50% of Pull at Reduced Engine Speed—Turtle 9									
101.0 *(75.3)*	7760 *(34.52)*	4.88 *(7.85)*	1861	1.1	0.548 *(0.334)*	12.74 *(2.51)*	156 *(69)*	48 *(9)*	29.6 *(100.4)*

Location of tests: DLG - Test Centre, Technology and Farm inputs, Max-Eyth-Weg 1, D-64823 Gross-Umstadt, Germany

Dates of tests: October 2009 - March 2010.

Manufacturer: AGCO S.A. ZA n2 BP 60307, Avenue Blaise Pascal, 60026 Beauvais , France

FUEL and OIL: Fuel No. 2 Diesel **Specific gravity converted to 60°/60°F *(15°/15°C)*** 0.839 **Fuel weight** 6.99 lbs/gal *(0.8373 kg/l)* **Oil SAE** 10W40 **API service classification** CI4 **Transmission and hydraulic lubricant** BP STOU 10W/40 **Front axle lubricant** SAE 85W90 API GL5

ENGINE: Make Sisu Diesel **Type** six cylinder vertical with turbocharger, air to air intercooler and IEGR technology **Serial No.** 21340 **Crankshaft** lengthwise **Rated engine speed** 2200 **Bore and stroke** 4.370" x 5.709" *(111.0 mm x 145.0 mm)* **Compression ratio** 16.7 to 1 **Displacement** 513 cu in *(8419 ml)* **Starting system** 12 volt **Lubrication** pressure **Air cleaner** two paper elements **Oil filter** one full flow cartridge **Oil cooler** engine coolant heat exchanger for crankcase oil, radiator for hydraulic and transmission oil **Fuel filter** one paper element **Muffler** vertical **Cooling medium temperature control** thermostat and variable speed fan

CHASSIS: Type front wheel assist with duals **Serial No.** T073991 **Tread width** rear 60.0" *(1525 mm)* to 101.8" *(2585 mm)* front 60.8" *(1545 mm)* to 89.2" *(2265 mm)* **Wheelbase** 122.2" *(3105 mm)* **Hydraulic control system** direct engine drive **Transmission** CVT. A combination of mechanical and hydrostatic sections allow an infinite speed adjustment within the ranges noted. The transmission has two mechanical ranges. **Nominal travel speeds mph *(km/h)*** forward: Low range 0-18 *(0-30)*, high range 0-25 *(0-40)* reverse: Low range 0-12 *(0-19)*, high range 0-12*(0-19)* **Clutch** a foot pedal controls the hydrostatic oil flow **Brakes** multiple wet disc hydraulically operated by two foot pedals that can be locked together **Steering** hydrostatic **Power take-off** 540 rpm at 2038 engine rpm or 1000 rpm at 2033 engine rpm **Unladen tractor mass** 25840 lb *(11720 kg)*

DRAWBAR PERFORMANCE

(Unballasted - Front Drive Engaged)
MAXIMUM POWER AT SELECTED SPEEDS

Power Hp *(kW)*	Drawbar pull lbs *(kN)*	Speed mph *(km/h)*	Crank-shaft speed rpm	Slip %	Fuel Consumption lb/hp.hr *(kg/kW.h)*	Hp.hr/gal *(kW.h/l)*	Temp.°F*(°C)* cool-ing med	Air dry bulb	Barom. inch Hg *(kPa)*
					Turtle 5				
183.6 *(136.9)*	26970 *(119.97)*	2.55 *(4.11)*	2014	15.0	0.569 *(0.346)*	12.28 *(2.42)*	162 *(72)*	64 *(18)*	29.6 *(100.4)*
					Turtle 6				
206.1 *(153.7)*	25645 *(114.08)*	3.01 *(4.85)*	1850	9.2	0.504 *(0.307)*	13.86 *(2.73)*	162 *(72)*	66 *(19)*	29.6 *(100.4)*
					Turtle 7.5				
217.2 *(162.0)*	21285 *(94.68)*	3.83 *(6.16)*	1851	4.2	0.478 *(0.291)*	14.62 *(2.88)*	162 *(72)*	66 *(19)*	29.7 *(100.5)*
					Turtle 9				
228.6 *(170.5)*	18905 *(84.09)*	4.54 *(7.30)*	1851	3.0	0.455 *(0.277)*	15.33 *(3.02)*	160 *(71)*	63 *(17)*	29.7 *(100.6)*
					Turtle 11				
227.0 *(169.3)*	14905 *(66.29)*	5.71 *(9.19)*	1850	2.1	0.459 *(0.279)*	15.23 *(3.00)*	144 *(62)*	61 *(16)*	29.7 *(100.6)*
					Turtle 13				
224.8 *(167.6)*	12625 *(56.15)*	6.68 *(10.75)*	1851	1.6	0.464 *(0.282)*	15.08 *(2.97)*	158 *(70)*	61 *(16)*	29.7 *(100.6)*
					Turtle 15				
221.3 *(165.0)*	10805 *(48.07)*	7.68 *(12.36)*	1851	1.5	0.471 *(0.286)*	14.84 *(2.92)*	162 *(72)*	61 *(16)*	29.7 *(100.6)*
					Turtle 17				
217.4 *(162.1)*	9255 *(41.17)*	8.81 *(14.18)*	1854	1.2	0.478 *(0.291)*	14.62 *(2.88)*	163 *(73)*	61 *(16)*	29.7 *(100.6)*
					Rabbit 11				
214.3 *(159.8)*	14320 *(63.69)*	5.61 *(9.03)*	1850	2.1	0.483 *(0.294)*	14.47 *(2.85)*	165 *(74)*	66 *(19)*	29.6 *(100.4)*
					Rabbit 13				
216.4 *(161.4)*	11930 *(53.06)*	6.80 *(10.95)*	1851	1.6	0.480 *(0.292)*	14.57 *(2.87)*	165 *(74)*	61 *(18)*	29.7 *(100.4)*
					Rabbit 15				
217.2 *(162.0)*	10470 *(46.58)*	7.78 *(12.52)*	1853	1.3	0.478 *(0.291)*	14.62 *(2.88)*	169 *(76)*	61 *(17)*	29.7 *(100.4)*
					Rabbit 17				
215.4 *(160.6)*	9165 *(40.77)*	8.81 *(14.18)*	1851	1.2	0.482 *(0.293)*	14.48 *(2.85)*	171 *(77)*	61 *(17)*	29.7 *(100.4)*

REPAIRS AND ADJUSTMENTS: No repairs or adjustments.

NOTE: The performance figures on this report are the result of replacing the electronic engine control module of the Massey Ferguson 8680 with the Massey Ferguson 8660 module.

REMARKS: All test results were determined from observed data obtained in accordance with official OECD test procedures. This tractor did not meet the manufacturer's claims of 15% power bulge nor remote hydraulic flow of 26.4 GPM *(100 l/min)* from one outlet set. The performance figures on this summary were taken from a test conducted under the OECD Code 2 test procedure.

We, the undersigned, certify that this is a true summary of data from OECD Report No. **2560**, Nebraska summary 744, October 26, 2010.

Roger M. Hoy
Director

M.F. Kocher
D.R. Keshwani
J.A. Smith
Board of Tractor Test Engineers

TRACTOR SOUND LEVEL WITH CAB	**dB(A)**
At no load in Turtle - 4.6 mph *(7.5 km/h)* - no load	71.0
Bystander	---

TIRES, BALLAST AND WEIGHT	**With Ballast**	**Without Ballast**
Rear Tires - No., size, ply & psi*(kPa)*	Six 480/80R46;***;9*(60)*	Four 480/80R46;***;9*(60)*
Ballast - Triples (total)	2955 lb *(1340 kg)*	None
- Cast Iron (total)	None	None
Front Tires - No., size, ply & psi*(kPa)*	Four 420/90R30;**;9*(60)*	Two 420/90R30;**;9*(60)*
Ballast - Duals (total)	1170 lb *(530 kg)*	None
- Cast Iron (total)	None	None
Height of Drawbar	19.5 in *(500 mm)*	19.5 in *(500 mm)*
Static Weight with operator - Rear	18300 lb *(8300 kg)*	15320 lb *(6950 kg)*
- Front	11825 lb *(5365 kg)*	10680 lb *(4845 kg)*
- Total	30125 lb*(13665 kg)*	26000 lb*(11795 kg)*

DRAWBAR PERFORMANCE

(Ballasted - Front Drive Engaged)

FUEL CONSUMPTION CHARACTERISTICS

Power Hp *(kW)*	Drawbar pull lbs *(kN)*	Speed mph *(km/h)*	Crank-shaft speed rpm	Slip %	Fuel Consumption lb/hp.hr *(kg/kW.h)*	Hp.hr/gal *(kW.h/l)*	Temp.°F *(°C)* cool-ing med	Air dry bulb	Barom. inch Hg *(kPa)*
Maximum Power—Turtle 7.5									
201.7	16115	4.69	2202	1.8	0.509	13.75	160	59	29.0
(150.4)	*(71.68)*	*(7.75)*			*(0.310)*	*(2.71)*	*(71)*	*(15)*	*(98.2)*
75% of Pull at Maximum Power—Turtle 7.5									
154.5	12075	4.80	2223	1.0	0.569	12.28	160	59	29.0
(115.2)	*(53.71)*	*(7.72)*			*(0.346)*	*(2.42)*	*(71)*	*(15)*	*(98.2)*
50% of Pull at Maximum Power—Turtle 7.5									
104.2	8045	4.86	2232	0.7	0.615	11.37	160	59	29.0
(77.7)	*(35.78)*	*(7.82)*			*(0.374)*	*(2.24)*	*(71)*	*(15)*	*(98.2)*
75% of Pull at Reduced Engine Speed—Turtle 9									
155.6	12095	4.82	1924	1.2	0.494	14.16	160	59	29.0
(116.0)	*(53.81)*	*(7.76)*			*(0.300)*	*(2.79)*	*(71)*	*(15)*	*(98.2)*
50% of Pull at Reduced Engine Speed—Turtle 9									
104.1	8045	4.85	1904	0.6	0.524	13.35	160	59	29.0
(77.6)	*(35.78)*	*(7.81)*			*(0.319)*	*(2.63)*	*(71)*	*(15)*	*(98.2)*
MAXIMUM POWER AT SELECTED SPEEDS									
					Turtle 5				
188.4	28325	2.49	2017	14.9	0.551	12.69	158	62	29.0
(140.5)	*(126.00)*	*(4.01)*			*(0.335)*	*(2.50)*	*(70)*	*(17)*	*(98.3)*
					Turtle 6				
213.0	26820	2.98	1851	7.7	0.488	14.36	160	62	29.0
(158.8)	*(119.30)*	*(4.79)*			*(0.296)*	*(2.83)*	*(71)*	*(17)*	*(98.3)*
					Turtle 7.5				
226.8	21850	3.89	1850	2.8	0.458	15.28	158	64	29.0
(169.1)	*(97.20)*	*(6.26)*			*(0.278)*	*(3.01)*	*(70)*	*(18)*	*(98.3)*
					Turtle 9				
227.7	18090	4.72	1851	2.2	0.458	15.28	160	61	29.0
(169.8)	*(80.46)*	*(7.60)*			*(0.278)*	*(3.01)*	*(71)*	*(16)*	*(98.3)*
					Turtle 11				
223.5	14815	5.66	1851	1.5	0.469	14.92	149	57	29.2
(166.7)	*(65.90)*	*(9.10)*			*(0.285)*	*(2.94)*	*(65)*	*(14)*	*(98.9)*
					Turtle 13				
222.3	12445	6.70	1850	1.3	0.469	14.92	151	59	29.0
(165.8)	*(55.35)*	*(10.78)*			*(0.285)*	*(2.94)*	*(66)*	*(15)*	*(98.3)*
					Turtle 15				
219.7	10655	7.73	1852	1.0	0.473	14.77	158	59	29.0
(163.8)	*(47.39)*	*(12.44)*			*(0.288)*	*(2.91)*	*(70)*	*(15)*	*(98.3)*
					Turtle 17				
214.9	9080	8.88	1854	0.9	0.483	14.47	162	59	29.0
(160.2)	*(40.38)*	*(14.29)*			*(0.294)*	*(2.85)*	*(72)*	*(15)*	*(98.3)*
					Rabbit 11				
220.6	14915	5.55	1851	1.6	0.472	14.82	145	55	29.0
(164.5)	*(66.34)*	*(8.93)*			*(0.287)*	*(2.92)*	*(63)*	*(13)*	*(98.2)*
					Rabbit 13				
223.5	12420	6.75	1849	1.3	0.466	15.02	158	55	29.0
(166.7)	*(55.25)*	*(10.86)*			*(0.283)*	*(2.96)*	*(70)*	*(13)*	*(98.3)*
					Rabbit 15				
223.1	10910	7.67	1850	1.0	0.467	14.97	153	55	29.0
(166.4)	*(48.53)*	*(12.34)*			*(0.284)*	*(2.95)*	*(67)*	*(13)*	*(98.3)*
					Rabbit 17				
221.4	9515	8.73	1851	0.8	0.470	14.87	162	57	29.0
(165.1)	*(42.33)*	*(14.04)*			*(0.286)*	*(2.93)*	*(72)*	*(14)*	*(98.2)*

HYDRAULIC PERFORMANCE

CATEGORY: IVN	
Quick Attach: No	
OECD Static test	
Maximum force exerted through whole range:	24590 lbs *(109.4 kN)*
i) Sustained pressure at compensator cutoff:	3190 psi *(220 bar)*
	three outlet sets combined
ii) Pump delivery rate at minimum pressure and rated engine speed:	49.5 GPM *(187.4 l/min)*
iii) Pump delivery rate at maximum hydraulic power:	44.6 GPM *(169.0 l/min)*
Delivery pressure:	2205 psi *(152 bar)*
Power:	57.4 HP *(42.8 kW)*
	single outlet set
ii) Pump delivery rate at minimum pressure and rated engine speed:	25.3 GPM *(95.6 l/min)*
iii) Pump delivery rate at maximum hydraulic power:	23.8 GPM *(90.1 l/min)*
Delivery pressure:	2510 psi *(173 bar)*
Power:	34.9 HP *(26.0 kW)*

HITCH DIMENSIONS AS TESTED—NO LOAD

	inch	*mm*
A	35.8	*910*
B	14.6	*370*
C	19.1	*484*
D	15.9	*405*
E	15.6	*395*
F	13.0	*330*
G	36.4	*925*
H	2.0	*50*
I	16.5	*420*
J	23.4	*595*
K	28.7	*730*
L	52.4	*1330*
M	29.8	*757*
N	42.9	*1090*
O	9.1	*230*
P	50.4	*1280*
Q	38.7	*983*
R	37.0	*940*